

Sub CD

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1. Nucleic acid encoding a signal transduction protein involved in the process of dehiscence.
2. Nucleic acid as claimed in claim 1 wherein the process involves the production of a hydrolytic enzyme.
3. Nucleic acid as claimed in claim 1 or claim 2 which is naturally expressed in a dehiscence zone.
4. Nucleic acid encoding a protein wherein the protein:
  - a) comprises the amino acid sequence shown in Figure 1 or;
  - b) has one or more amino acid deletions, insertions or substitutions relative to a protein as defined in a) above and has at least 40% amino acid sequence identity therewith; or
  - c) is a fragment of a protein as defined in a) or b) above, which is at least 10 amino acids long.
5. Nucleic acid as claimed in any one of claims 1 to 4 which comprises the sequence set out in Figure 1 or a fragment thereof which is at least 30 bases long.
6. Nucleic acid, as claimed in any one of claims 1 to 5 in combination with one or more further nucleic acid sequence which is dehiscence-zone expressed.

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- Sub A1
- 5 7. Nucleic acid which is antisense to nucleic acid as claimed in any one of claims 1 to 6.
8. Nucleic acid as claimed in any one of claims 1 to 7 including a promoter or other regulatory sequence which controls expression of the nucleic acid.
9. Nucleic acid which is the naturally occurring promoter or other regulatory sequence which controls expression of nucleic acid as claimed in any one of claims 1 to 8.
- 10 10. Nucleic acid as claimed in any one of claims 1 to 9 which is in the form of a vector.
- 15 11. A cell comprising nucleic acid as claimed in any one of claims 1 to 10.
12. A plant cell as claimed in claim 11.
- 20 13. A process for obtaining a cell as claimed in claim 11 or claim 12 comprising introducing nucleic acid as claimed in any one of claims 1 to 10 into said cell.
14. A plant or a part thereof comprising a cell as claimed in claim 11 or claim 12.
- 25 15. Propagating material or a seed comprising a cell as claimed in claim 11 or claim 12.

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16. A process for obtaining a plant or plant part as claimed in claim 14 or claim 15 comprising obtaining a cell as claimed in claim 11 and growth thereof or obtaining a plant, plant part, or propagating material as claimed in claim 14 or claim 15 and growth thereof.

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17. A signal transduction protein involved in the process of plant dehiscence.

18. A protein which:

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- a) comprises the amino acid sequence shown in Figure 1 or;

- b) has one or more amino acid deletions, insertions or substitutions relative to a protein as defined in a) above, and has at least 40% amino acid sequence identity therewith; or

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- c) a fragment of a protein as defined in a) or b) above which is at least 10 amino acids long.

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19. A protein as claimed in claim 17 or claim 18 which is isolated or recombinant.

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20. A process for regulating/controlling dehiscence in a plant or a part thereof, the process comprising obtaining a plant or part thereof as claimed in claim 14.

- Sub A4
21. A process as claimed in claim 20 which comprises obtaining a plant cell as claimed in claim 21 or part of a plant as claimed in claim 14 and deriving a plant therefrom.

Sub A4

22. A process as claimed in claim 20 which comprises obtaining propagating material or a seed as claimed in claim 15 and deriving a plant therefrom

23. A process as claimed in claim 20 wherein the dehiscence is of a pod or of an anther.

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Sub A5

24. Use of nucleic acid as claimed in any one of claims 1 to 10 in the regulation/control of plant dehiscence.

10 25. Use of nucleic acid as claimed in any one of claims 1 to 10 as a probe.

26. Use of nucleic acid as claimed in any one of claims 1 to 10 in the production of a cell, tissue, plant part thereof or propagating material.

15 27. Nucleic acid comprising one or more of the underlined sequences as set out in Figure 1, or one or more of the primer sequences in Figure 5, 9 and/or 11.

28. Use of the nucleic acid as claimed in claim 27 as a PCR primer.

20 29. Use of a protein as claimed in any one of claims 17 to 19 as a probe.